CLAIMS:

We claim:

1. An isolated culture of type I stem cells from a mammalian brain having the following characteristics:

said type I stem cells do not attach to either plastic or laminin-coated substrates;

said type I stem cells do not attach to each other;

said type I stem cells are immunonegative for the cell-specific markers glial fibrillary acidic protein (GFAP), nestin, and TuJ1; and

said type I stem cells are approximately 2-3 microns, dense, and phase bright.

2. An isolated culture of type II stem cells from a mammalian brain having the following characteristics:

said type II stem cells do not attach to either plastic or laminin-coated substrates;

immediately after said type II stem cells appear in culture, said type II stem cells are immunonegative for the cell-specific markers glial fibrillary acidic protein (GFAP), nestin, and TuJ1; and

said type II stem cells have a cellular structure, said cellular structure of said type II stem cells including endoplasmic reticulum, Golgi apparatus, dense bodies, and mitochondria.

3. The Type II stem cells of claim 2, wherein said stem cells are pleuripotent precursor cells capable of differentiation.

4. The type II stem cells of claim 3, wherein said type II stem cells are capable of differentiating into type III stem cells.

5. The type II stem cells of claim 4, wherein said type II stem cells are capable of further differentiating into neuronal cells.

6. The type II stem cells of claim 4, wherein said type II stem cells are capable of further differentiating into glial cells.

7. An isolated culture of type III stem cells from a mammalian brain having the following characteristics:

said type III stem cells attach to either plastic or laminin-coated substrates;

said type III stem cells are immunopositive for the cell-specific markers GFAP, nestin, L1, TuJ1, and 04 antigen; and

said type III stem cells have a cellular structure, said cellular structure of said type III stem cells including densely packed nuclei with well-developed and differentiated cellular organelles,

wherein said isolated culture of type III stem cells is produced by the method comprising the following steps:

mincing extracted brain of a mammal to obtain brain cells; and

growing said brain cells in suspension culture for approximately 30 days.

8. An isolated culture of type III stem cells from a mammalian brain having the following characteristics:

said type III stem cells attach to either plastic or laminin-coated substrates;

said type III stem cells are immunopositive for the cell-specific markers GFAP, nestin, L1, TuJ1, and 04 antigen; and

said type III stem cells have a cellular structure, said cellular structure of said type III stem cells including densely packed nuclei with well-developed and differentiated cellular organelles,

wherein said isolated culture of type III stem cells is produced by the method comprising the following steps:

mincing extracted brain of a mammal to obtain brain cells;

growing said brain cells in suspension culture, said suspension culture including at least one contact limiting substance;

removing said at least one contact limiting substance after approximately 14 days, to obtain a suspension culture without contact limiting substances; and

waiting approximately 10 days for the appearance of said type III stem cells in said suspension culture without contact limiting substances.

9. The type III stem cells of claim 7 or 8, wherein said type III stem cells are capable of differentiating into neuronal cells.

10. The type III stem cells of claim 7 or 8, wherein said type III stem cells are capable of differentiating into glial cells.

11. The isolated type III stem cells of claim 8, wherein said contact limiting substance is mercaptoethanol.

12. The isolated type III stem cells of claim 8, wherein said contact limiting substance is poly 2-hydroxyethyl methacrylate.

13. The isolated type III stem cells of claim 8, wherein said contact limiting substance is methylcellulose.

14. The stem cells of claim 1, 2, 7 or 8, wherein said stem cells are genetically modified.

15. A method for culturing type I stem cells from a mammalian brain having the following characteristics:

said type I stem cells do not attach to either plastic or laminin-coated substrates;

said type I stem cells do not attach to each other;

said type I stem cells are immunonegative for the cell-specific markers glial fibrillary acidic protein (GFAP), nestin, and TuJ1; and

said type I stem cells 2-3 microns, dense, and phase bright,

wherein the culturing method comprises the following steps:

mincing an extracted brain of a mammal to obtain extracted brain cells; and

plating said extracted brain cells at high-density on a non-adhesive substrate growing to obtain a suspension culture, wherein said suspension culture includes at least one cell-contact limiting factor.

16. A method for culturing type II stem cells from a mammalian brain having the following characteristics:

said type II stem cells do not attach to either plastic or laminin-coated substrates;

immediately after said type II stem cells appear in culture, said type II stem cells are immunonegative for the cell-specific markers glial fibrillary acidic protein (GFAP), nestin, and TuJ1; and

said type II stem cells have a cellular structure, wherein said cellular structure of said type II stem cells includes endoplasmic reticulum, Golgi apparatus, dense bodies, and mitochondria, and

wherein the culturing method comprises the following steps:

mincing extracted brain of a mammal to obtain extracted brain cells; and

plating said extracted brain cells at high-density on a non-adhesive substrate growing to obtain a suspension culture, wherein said suspension culture includes at least one contact inhibiting factor;

growing said suspension culture for approximately 10-14 days;

removing said at least one contact inhibiting factor from said suspension cell culture to obtain a suspension cell culture without contact inhibiting factors; and

growing said suspension culture without contact inhibiting factors for approximately one week until the appearance of said type II cells.

17. A method for culturing type III stem cells from a mammalian brain having the following characteristics:

said type III stem cells attach to either plastic or laminin-coated substrates;

said type III stem cells are immunopositive for the cell-specific markers GFAP, nestin, L1, TuJ1, and 04 antigen; and

said type III stem cells have a cellular structure, said cellular structure of said type III stem cells including densely packed nuclei with well-developed and differentiated cellular organelles,

wherein the culturing method comprises the following steps:

mincing extracted brain of a mammal to obtain brain cells; and

growing said brain cells in a suspension culture for approximately 30 days.

18. A method for culturing type III stem cells from a mammalian brain having the following characteristics:

said type III stem cells attach to either plastic or laminin-coated substrates;

said type III stem cells are immunopositive for the cell-specific markers GFAP, nestin, L1, TuJ1, and 04 antigen; and

said type III stem cells have a cellular structure, said cellular structure of said type III stem cells including densely packed nuclei with well-developed and differentiated cellular organelles,

wherein the culturing method comprises the following steps:

mincing extracted brain of a mammal to obtain brain cells;

growing said brain cells in a suspension culture, said suspension culture including a contact limiting substance;

removing said contact limiting substance after approximately 14 days; and

waiting approximately 10 days for the appearance of said type III stem cells.

19. The method of claims 15, 16, 17 or 18, wherein said non-adhesive substrate is mercaptoethanol.

20. The method of claims 15, 16, 17 or 18, wherein said contact-inhibiting factor is poly 2-hydroxyethyl .

21. The method of claims 15, 16, 17 or 18, wherein said contact-inhibiting factor is methylcellulose.

22. The method of claims 16, 17, or 18, wherein said stem cells are capable of differentiation into neuronal cells.

23. The method of claims 16, 17, or 18, wherein said stem cells are capable of differentiation into glial cells.

24. The method of claims 15, 16, 17, or 18, wherein said stem cells are genetically modified.

25. The method of claims 15, 16, 17, or 18, wherein said mammalian brain further comprises a mammalian brain with a significantly long postmortem interval.

26. A method of treating a neurological disease, wherein said method comprises the step of transplanting the isolated stem cells of claims 2, 7, or 8 into a mammalian brain having a neurological disease.

27. The method of claim 26, wherein said neurological disease is selected from the group of neurological diseases consisting of traumatic injury, neurodegenerative disease, neuroma, arteriovenous malformation, stroke cavity, and cavity where said isolated stem cells can deter further cavitation.

28. The method of claim 27, wherein said neurodegenerative disease is multiple sclerosis, and wherein said isolated stem cells are capable of differentiating into glial cells.

29. The method of claim 27, wherein said cavity where enhanced adhesive cells can deter further cavitation are spinal cord syrinxes following traumatic injuries.